

Problem E: Enjoyable Entree

Time limit: 1 second

For many days now, the canteen in Hilbert's Hotel has been offering its famous *Fibonacci Soup*. Today is the n th day that they offer the soup, and the recipe changes every day:

- On the first day, it is a π -tato soup, made from a blend of local potato varieties, and served with onion strips and celery.
- On the second day, it is a τ -mato soup, consisting of puréed tomatoes, together with carrots, onions, garlic, and basil leaves on top.
- On every day after that, the soup is made from two ingredients, the soup of the previous day and the soup of the day before that, mixed together in equal parts.



π -tato and τ -mato soup. Picture by RitaE, Pixabay

Find the composition of today's Fibonacci Soup.

Input

The input consists of:

- One line with a single integer n ($1 \leq n \leq 10^{18}$), the current day.

Output

Output two real numbers π and τ ($0 \leq \pi, \tau \leq 100$), giving the percentages of π -tato soup and τ -mato soup in the n th day's Fibonacci soup. Your answer will be accepted if the absolute or relative error is at most 10^{-6} .

Sample Input 1

1

Sample Output 1

100.0 0.0

Sample Input 2

3

Sample Output 2

50.0 50.0

Sample Input 3

7

Sample Output 3

34.375 65.625